



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/692,852	10/27/2003	John C. Pan	MR929-931	9265
4586	7590	06/27/2006	EXAMINER	
ROSENBERG, KLEIN & LEE 3458 ELLICOTT CENTER DRIVE-SUITE 101 ELLICOTT CITY, MD 21043			SHANKAR, VIJAY	
			ART UNIT	PAPER NUMBER
			2629	

DATE MAILED: 06/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/692,852

Applicant(s)

PAN ET AL.

Examiner

VIJAY SHANKAR

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-9 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over in Hsieh et al (US 2004/0062034 A1) in view of Honguh et al (6,344,928).

Regarding Claim 1, Hsieh et al teaches a direct-light illuminating backlight unit for a display, comprising a case (140 in fig.3) having a front opening as a light-emitting face, a frame and a back connected to the frame, wherein the light-emitting face has at least one brighter region and at least one dimmer region (Figures 3-4; Paragraph 0017-0026); at least one light-emitting source (150) mounted inside the case align with the back (Figure 4, Paragraph 0024) , wherein the at least one brighter region is immediately in front of the light-emitting source, and the at least one dimmer region is away from the light-emitting source (Figure 4, Paragraph 0036); and the case in front of the light-emitting source, wherein each light source has a pattern of opening that allow light to be emitted wherein at least one region immediately in front of the light-emitting source has smaller opening ratio and hence higher blockage to the light, wherein at least one region away from the light-emitting source has larger opening ratio

and hence lower blockage to the light, and thus reduces uneven luminance between the at least one brighter region and the at least one dimmer region. (Figures 3-4; Paragraph 0017-0036).

However, Hsieh et al does not teach a direct-light illuminating backlight unit with shielding mask for a liquid crystal display, comprising at least one shielding mask mounted in the case in front of the light-emitting source, wherein each shielding mask has a pattern of opening that allow light to be emitted from the otherwise opaque mask, wherein at least one region immediately in front of the light-emitting source has smaller opening ratio and hence higher blockage to the light, wherein at least one region away from the light-emitting source has larger opening ratio and hence lower blockage to the light, and thus reduces uneven luminance between the at least one brighter region and the at least one dimmer region.

Honguh et al teaches a direct-light illuminating backlight unit with shielding mask for a liquid crystal display (1 in Fig.1) (Figures 1-14; Column 5, line 1-Column 8, line 65), comprising at least one shielding mask (512a, 512b in fig.3; Col.6, lines 51-56) mounted in the case in front of the light-emitting source, wherein each shielding mask has a pattern of opening that allow light to be emitted from the otherwise opaque mask, wherein at least one region immediately in front of the light-emitting source has smaller opening ratio and hence higher blockage to the light, wherein at least one region away from the light-emitting source has larger opening ratio and hence lower blockage to the light, and thus reduces uneven luminance between the at least

one brighter region and the at least one dimmer region. (Figures 1-14; Column 5, line 1- Column 8, line 65).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the teaching of Honguh et al into Hsieh et al for providing the display backlight unit with shielding mask to stop the dispersion of light and redirecting the light to the specific path control by the mask.

Regarding Claim 2, Hsieh et al teaches the illuminating backlight unit further comprising a reflective layer formed on the back to reflect light radiated backward from each light-emitting source to the front opening. (Figures 3-4; Paragraph 0017-0026).

Regarding Claim 3, Hsieh et al teaches the illuminating backlight unit wherein the reflective layer is composed of multiple reflective protrusions (143), each protrusion having two inclined faces and a salient aligned with the corresponding light-emitting sources, wherein each inclined face project reflected light onto an adjacent dimmer region. (Figure 4; Paragraph 0033-0036).

Regarding Claim 4, Hsieh et al teaches the illuminating backlight unit wherein the reflective layer is formed integrally with the back. (Figure 4; Paragraph 0036).

Regarding Claims 5-7, Honguh et al teaches the illuminating backlight unit wherein the shielding mask is curved, flat, and wherein the opening pattern of the shielding mask is a group of through holes. (Col.5, line 5-65; Col.6, lines 1-65).

Regarding Claim 8, Hsieh et al teaches the illuminating backlight unit wherein the at least one light-emitting source is a tubular lamp. (Figure 4; Paragraph 0036).

Regarding Claim 9, Hsieh et al teaches the illuminating backlight unit wherein the at least one light-emitting source is a straight tubular lamp. (Figure 4; Paragraph 0036).

Regarding Claim 12-14, Honguh et al teaches the illuminating backlight unit further comprising a diffuser plate mounted at the front opening of the case in front of the shielding mask, and a diffuser sheet laid on top the diffuser plate, a prism sheet (331) laid on top the diffuser plate. (Col.5, line 5-65; Col.6, lines 5-65).

Regarding Claim 13-14, Hsieh et al teaches the illuminating backlight unit further comprising a diffuser sheet (130) laid on top the diffuser plate (110) (see Fig.4; Paragraph 0024), a prism sheet (120) laid on top the diffuser plate (110) (see Figure 4; Paragraph 0024).

3. Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsieh et al in view of Honguh et al as applied to claims 1-9 above, and further in view of Ohashi et al (Japanese abstract JP 08095039 A).

Regarding Claims 10-11, The combination fails to teach the illuminating backlight unit wherein the at least one light-emitting source is a looped tubular lamp in U shape or in W shape.

Ohashi et al teaches the illuminating backlight unit wherein the at least one light-emitting source is a looped tubular lamp in U shape or in W shape (Figs.4,6,7).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the teaching of Ohashi et al into the combination for providing the compact and improved tube.

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

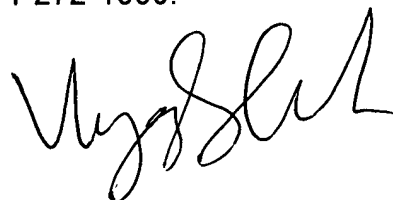
Kim et al teaches the LCD and the shielding mask.

Marsh teaches the illuminating backlight unit.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VIJAY SHANKAR whose telephone number is (571) 272-7682. The examiner can normally be reached on M-F 7:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BIPIN SHALWALA can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



VIJAY SHANKAR
Primary Examiner
Art Unit 2629

VS